Armed Forces Epidemiology Board Topic: Leishmaniasis Registry

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Leishmaniasis Registry: ***Key Issues***

Background Information on the Disease

- Etiologic agent, geographic distribution, transmission
- Clinical presentation
- Diagnosis
- Prevention & treatment

Leishmaniasis Registry: ***Key Issues***

Information on Leishmaniasis Registry

- Purpose
- Design
- Data collection
- Analysis

Leishmaniasis Registry: ***Background***

Etiologic agent = protozoan *Leishmania*

- Cutaneous, visceral or mucocutaneous depending on species & location
- Most Middle East cases: cutaneous (*L. major)*

Geographic distribution

Middle East, India, E. Africa, So. Europe & Americas from So. Texas to No. Argentina

Transmission by bite of female sandflies

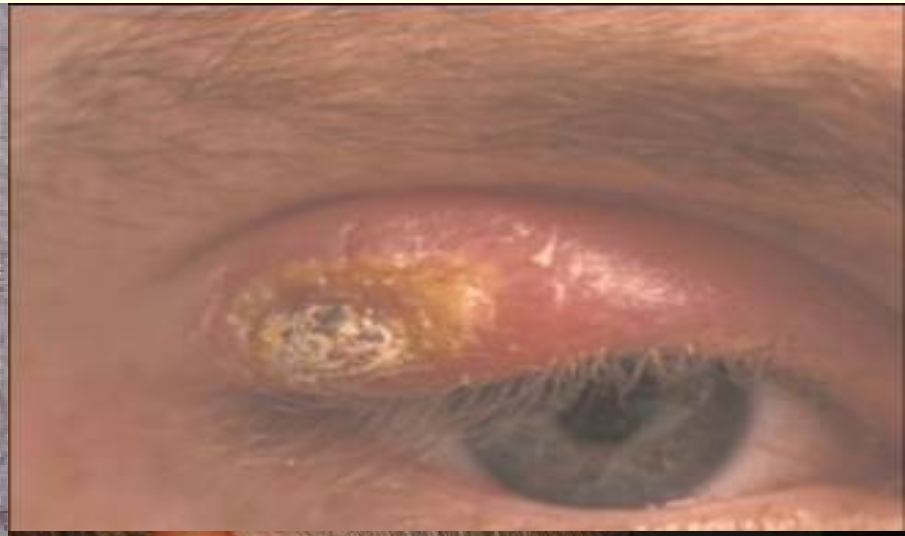
Leishmaniasis Registry:
Background

Leishmaniasis Registry: ***Background***

Clinical presentation

- Starts as papule weeks or months after sandfly bite
- Papule enlarges & ulcerates
  - Ulcer grows up to several centimeters
  - Heals slowly with scarring that can be permanent or deforming
- Not life threatening

Leishmaniasis Registry:
Background



Leishmaniasis Registry: ***Background***

Diagnosis

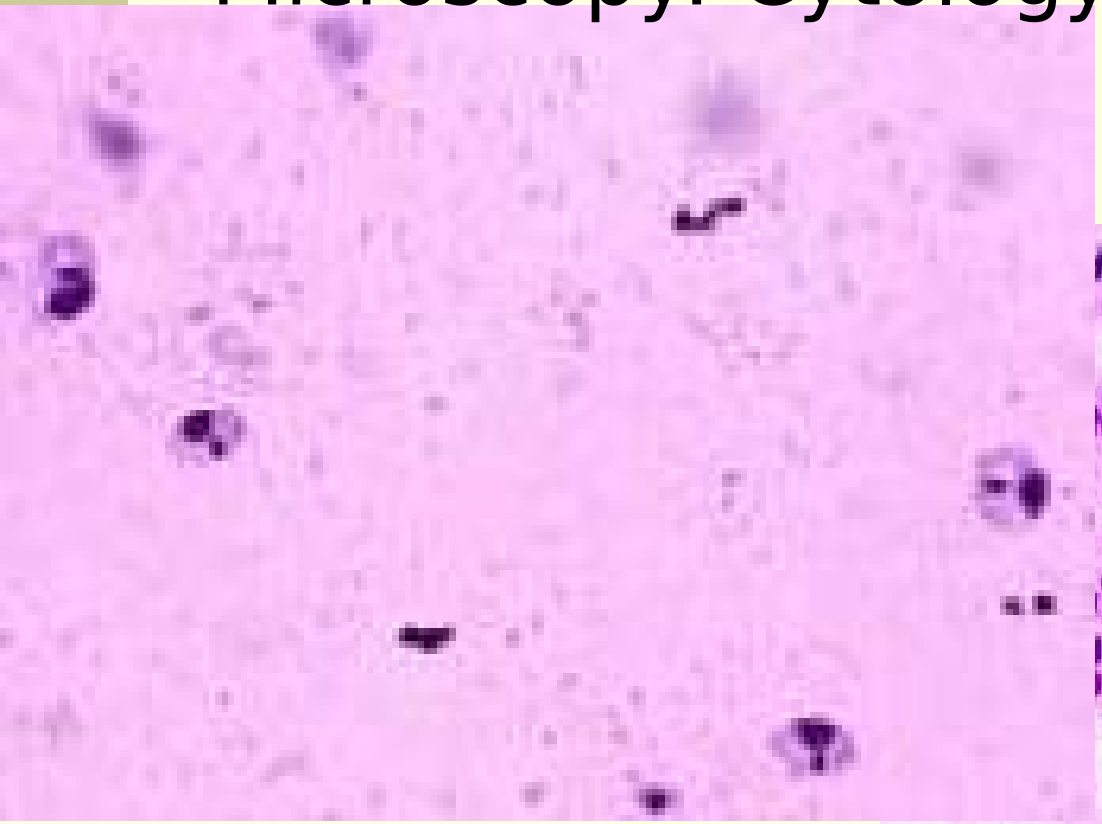
- Specimen Collection
  - Scraping
  - Biopsy
- Diagnostic techniques
  - Microscopy
  - Molecular
  - Cultures

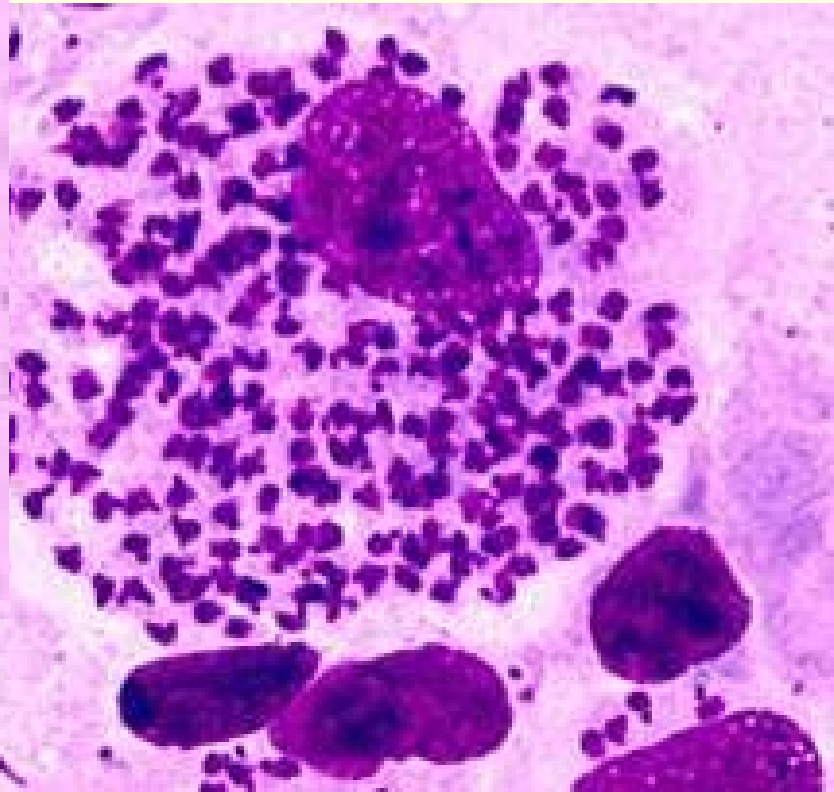
Leishmaniasis Registry: ***Background***

Specimen Collectio

Leishmaniasis Registry: ***Background***

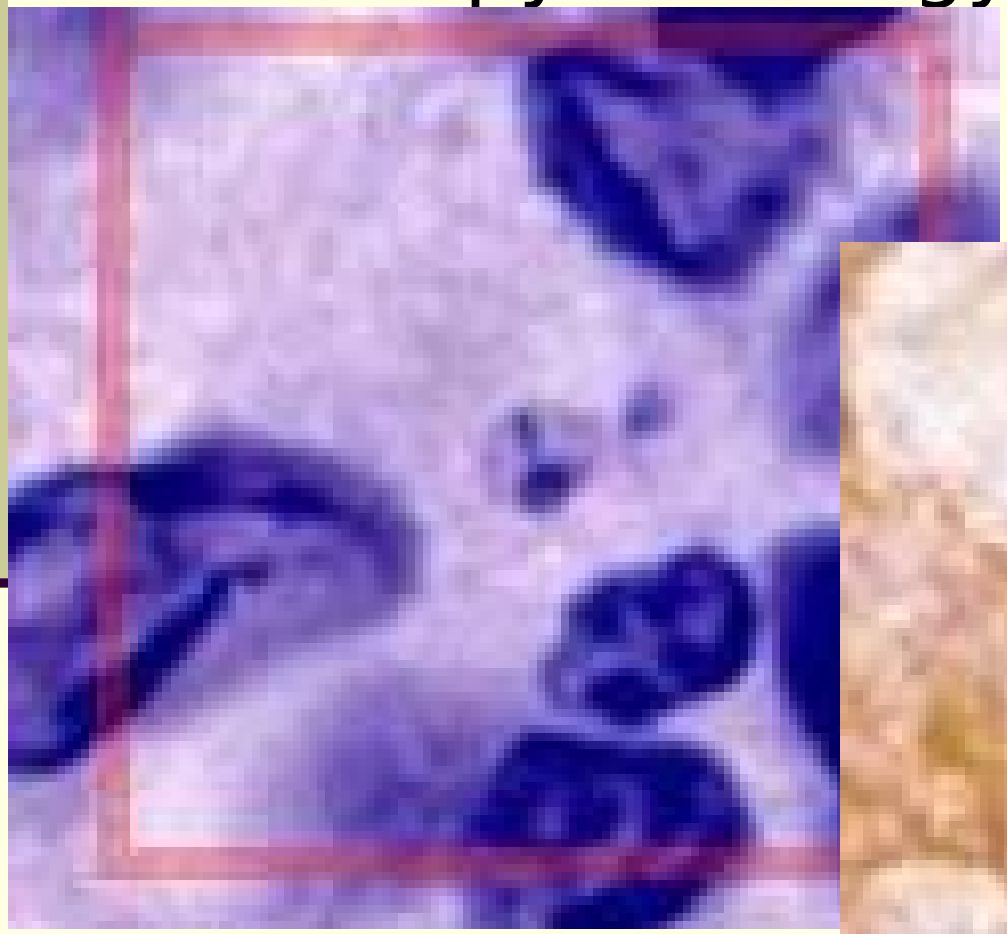
Microscopy: Cytology





Leishmaniasis Registry:
Background

Microscopy: Histology



Leishmaniasis Registry: ***Background***

Diagnostic techniques performed by Walter Reed Army Institute of Research (WRAIR)

- Molecular
  - Real-time polymerase chain reaction (PCR) assay
  - Can be used to determine species
- Culture

  Usually not necessary

Leishmaniasis Registry: ***Background***

Prevention

- Protection against sandfly bites
  - DEET (N,N-diethyl-m-toluamide) repellent
  - Permethrin treated uniforms & bed nets
- Eradication of sandfly
- Elimination of mammalian reservoir hosts
- No immunoprophylaxis, chemoprophylaxis, or vaccine against leishmaniasis

Leishmaniasis Registry: ***Background***

Treatment options

- No treatment
- Cryotherapy
- Heat
- Pentostam®
- Imidazoles
- Topical antibiotics

Leishmaniasis Registry: ***Background***

Treatment outcome

- Not known for 60-90 days
- Treatment failure = new lesions appear or old lesions enlarge
- Treatment success = no new lesions appear & old lesions heal

Leishmaniasis Registry: ***Data Presentation***

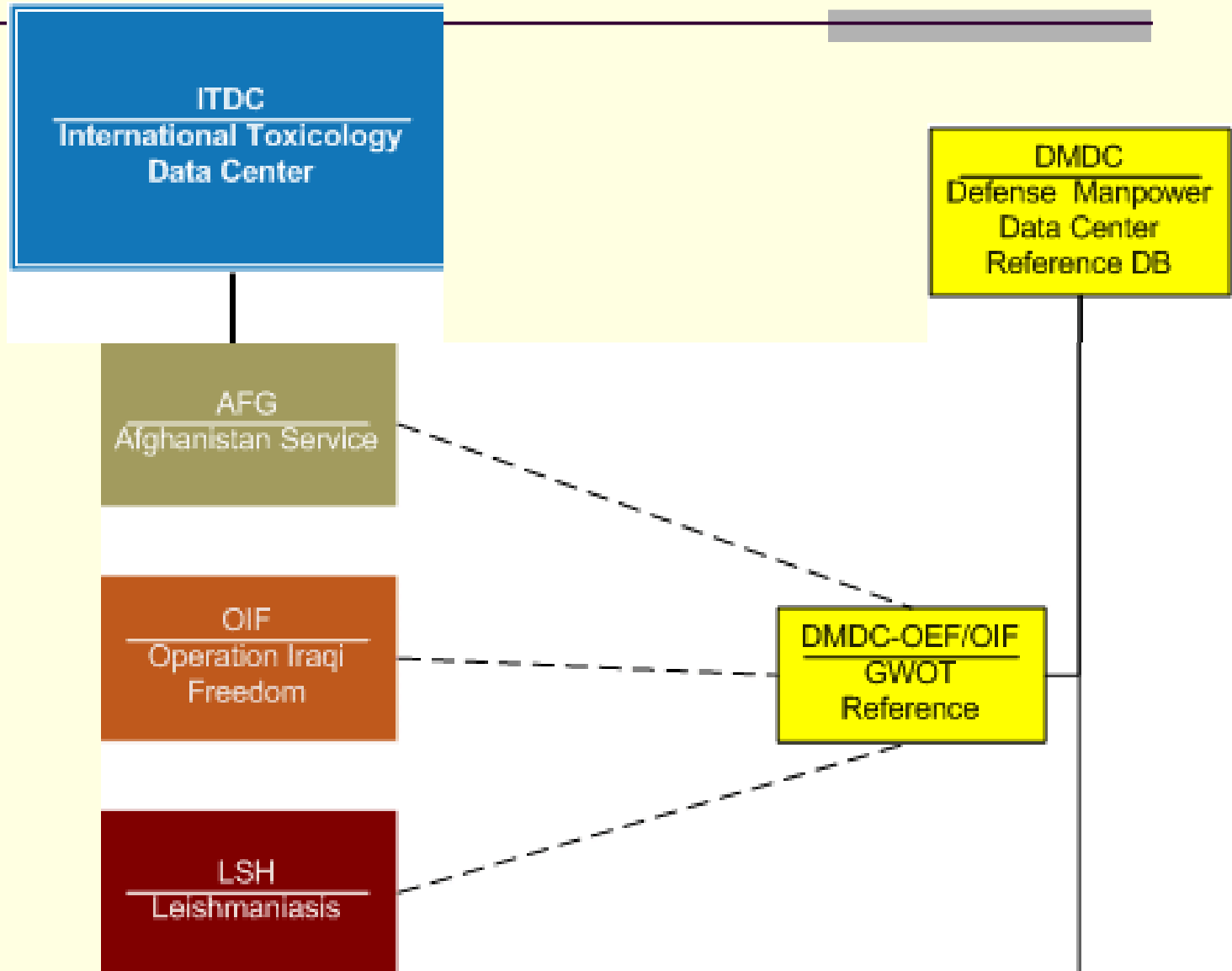
- Purpose
- Data collection
- Data
- Analysis

Leishmaniasis Registry: ***Data Presentation***

Purpose

- Formal consolidation of data & materials
  - Cohort served in Southwest Asia
    - Operation Enduring Freedom or Operation Iraqi Freedom
  - Disease that may be related to cutaneous or visceral *Leishmania* infection
- Maximum systematic capture of data to shape evolution of diagnosis & treatment

Leishmaniasis Registry: ***Data Presentation***



Leishmaniasis Registry: ***Data Presentation***

Data collection

- Data & specimens sent to AFIP
  - Standardized by web-based questionnaires (time = 0, 6 & 12 months)
  - Specimens issued number & diagnosis
  - SNOMED coded (Systematized Nomenclature of Medical Clinical Terms)
- Providers report to Defense Medical Surveillance System (DMSS) through Reportable Medical Event System (RMES)
- AFIP consolidates its data with WRAIR & health care providers

Leishmaniasis Registry: ***Data Presentation***

Questionnaire

- Travel history
- Characteristics of environment
- Biting insect exposure
- Medications
- Clinical observations
- Treatment dates, adverse reactions, outcome

Leishmaniasis Registry: ***Data Presentation***

Questionnaire

AFIP Leishmaniasis Registry Questionnaire 1 (of 3)
Newly Diagnosed Patient

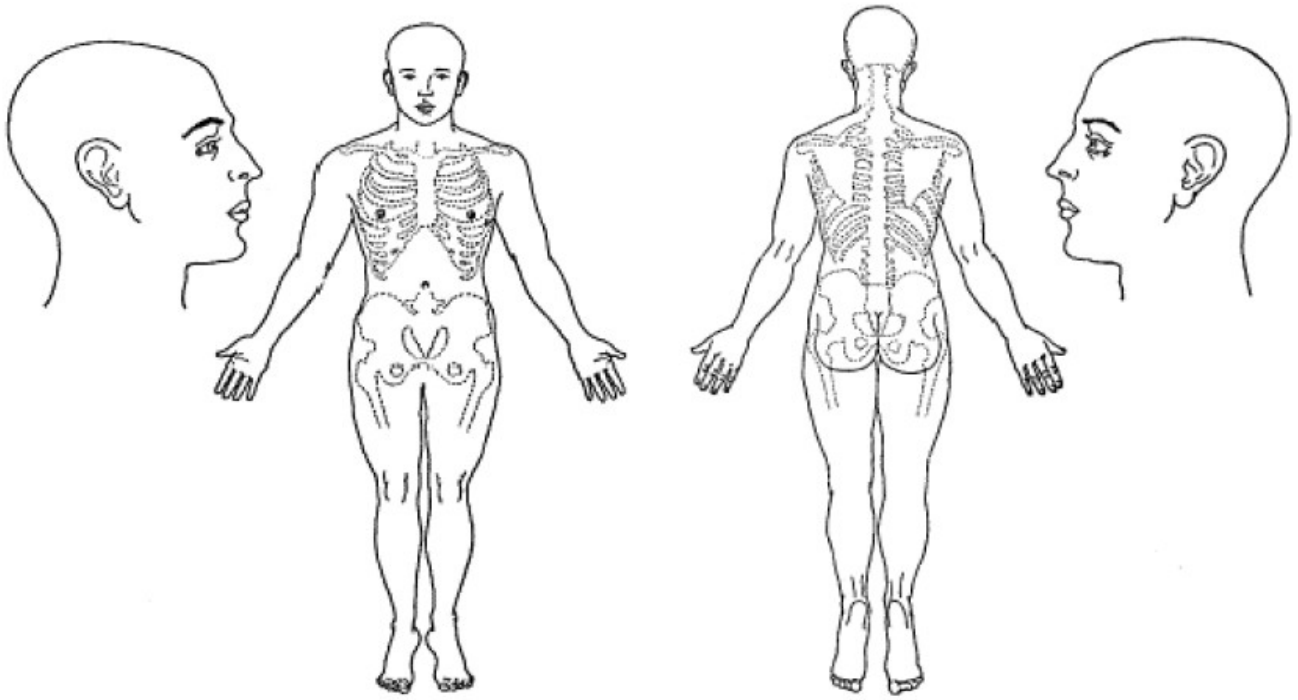


Figure 1.
Indicate location(s) of sore(s). State size of largest sore: (largest dimension in centimeters or inches; give unit).

Leishmaniasis Registry: ***Data Presentation***

Analysis

Published data on first cases 2003-2004

- Distribution by sex and rank = distribution of soldiers in units affected
- Mean time to presentation 9 ± 5 weeks
- Onset peaks in autumn

Leishmaniasis Registry: ***Data Presentation***

Analysis: first 1018 patients

702 Positive

316 Negative

202 possible leishmaniasis

114 other diagnoses:

- Nonspecific
- Inflammatory conditions
- Viral, bacterial or fungal infections
- Neoplastic
- Vascular disease

Leishmaniasis Registry: ***Implications***

Potential studies

- Comparison of sensitivity and specificity of diagnostic tests
- Comparison of efficacy of treatment modalities
- Basic science research on pathogenesis

Leishmaniasis Registry

More about leishmaniasis

- Deployment Health Clinical Center Website http://www.pdhealth.mil/leish.asp
  - Policies and directives from DoD/Joint Forces, Army, Air Force, Navy/Marines, VA
  - Clinical guidance, fact sheets, education, training & research
- AFIP Website http://www.afip.org/Departments/infectious/lm

Leishmaniasis Registry

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